

In the Abstract:

On line 5, please delete --hHydrogen-- and insert in its place "hydrogen".

In the Claims:

Please amend claim 1. Please cancel claims 3 and 13-20. Please add new claims 21 and 22. A clean copy of the amended claims is shown on the following sheet(s), and a marked-up version, showing the changes made, is being submitted as Appendix A to this Amendment, pursuant to the amendment practice as specified in 37 C.F.R. section 1.121.

CLEAN COPY OF THE CLAIMS

sub C1 7
1. A method of pre-treating a barrier metal layer of a partially finished integrated circuit device prior to the deposition of a copper film thereon, comprising the steps of:

A1
providing a partially finished integrated circuit device including a barrier metal layer;

subjecting said barrier metal layer to an atmosphere chosen from the group consisting of: an ambient vacuum, hydrogen gas, argon gas and helium gas;

subjecting said barrier metal layer to a temperature greater than 200 degrees Celsius for at least thirty seconds to form a pre-treated barrier metal layer; and

depositing a copper film on said pre-treated barrier metal layer.

sub C3 21. A method of pre-treating a barrier metal layer of a partially finished integrated circuit device prior to the deposition of a copper film thereon, comprising the steps of:

A2
providing a partially finished integrated circuit device including a barrier metal layer;

subjecting said barrier metal layer to a temperature greater than 200 degrees Celsius and to a non-reactive atmosphere for at least thirty seconds to form a pre-treated barrier metal layer; and

depositing a copper film on said pre-treated barrier metal layer.

A2 Sub 07
end

22. The method of claim 21 wherein said non-reactive atmosphere is chosen from the group consisting essentially of: an ambient vacuum, hydrogen gas, argon gas and helium gas.
